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Outline for history taking and physical examination.

University of Toronto
FACULTY OF MEDICINE
DEPARTMENT OF MEDICINE

OUTLINE FOR HISTORY TAKING
AND
PHYSICAL EXAMINATION

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A. Introduction

In order to take a good history and make a satisfactory physical examination, the medical student must have a method and be fully conscious of what he is trying to do. The primary object of the history and examination is to determine in what way the patient is unwell and , if possible, the character and situation of his trouble. The patient comes to the physician with some complaint from which he seeks relief. In the 'History of Present Illness' an attempt is made to analyse this complaint completely and to correlate it with other symptoms and signs which may be discovered. This is followed by the 'Functional Enquiry' in which one enquires in a detailed fashion into the functional efficiency of the various organs and systems; next, the 'History of Past Illnesses', 'Personal History' and 'Family History', which indicate in what manner these may have contributed to the present condition of the patient. A good history is of invaluable help in solving the problem presented.

After the 'History' comes the 'Physical Examination' in which one examines the physical state of the patient from head to foot. When the history and physical examination of the patient have been completed, the physician should be fairly well qualified to answer the patient's question: "Doctor, what is the matter with me?", and to treat him intelligently.

The following scheme is meant to act as a guide for the carrying out of such an investigation, indicating the order in which it is suitable to conduct the enquiry and the examination. It does not pretend to be complete in any respect and for details the student will have to rely upon his theatre clinic notes, his bedside teaching in the wards of the hospital and the various text-books on medicine and allied subjects.

It is perhaps unnecessary to point out that the method of taking a history and conducting a physical examination will vary depending upon the acuteness or chronicity of the illness. In the acutely

ill patient, one must direct the attention, examination, and treatment mainly to the regions involved, leaving the more exhaustive enquiry and examinations—such as those of the nervous system in a person having haemoptysis, gastrointestinal haemorrhage or pneumonia—until such time as the patient can be subjected to this without any undue fatigue or distress. In the chronically ill patient, on the other hand, it will probably be necessary to go fully into all the details of enquiry and physical examination before a final conclusion can be reached.

It should be emphasized, too, that the student should at all times be tactful, considerate, and kind, and that he should be mindful of the fact that he is dealing with a person who has a disease and not with a disease alone.

B. History

General Information:

Name: Age: Sex:
Occupation: Marital State: Nationality:
Date: (When the student taking the history first sees the patient).

Chief Complaint:

The chief reason, or reasons, why the patient has sought medical advice. This should consist of the chief signs or symptoms noticed by the patient, accompanied by their duration, and should not include the patient's interpretation of them, such as: "heart trouble" or "kidney disease."

History of Present Illness:

This should begin with a statement as to when the patient was last perfectly well or in his usual state of health. Times should be recorded concretely—preferably in the form of actual dates rather than giving them as "so many months or days ago." The symptom or symptoms complained of should be treated in a chronological fashion and traced up to the time that the history is being taken. Particular attention should be given to the description of these symptoms, accurately describing the circumstances preceding onset, the mode of onset, character, location, duration, changes, periodicity, relationship to bodily and physiological activity of all kinds, relationship to other symptoms, the manner in which they are aggravated or relieved, and their effect on the patient's sense of well-being and general health. If the patient has received any treatment for his condition previous to your examination, the nature and effect of this treatment should be recorded. After you

have heard the patient's story, from your knowledge of disease you can ask questions which, although they must not be leading except in the last resort, will bring further light on the symptoms involved. The history of any previous attacks of a similar nature, along with the manner and the effect of treatment, should be recorded, as well as any previous illnesses which may have played a part in the development of the present condition.

Functional Enquiry:

Under this heading should come a detailed and all-inclusive enquiry into the general health of the patient. The aim should be to survey as completely as possible the functional activity of each organ and system. This should be done quite apart from the enquiry into the present illness and it will be unnecessary to repeat in this section details which have been included under that heading. This enquiry should proceed in a regular manner, taking up each system in order. It should include the history of any previous dysfunction or disease in a system, as well as its efficiency at the time of the examination. Frequently such an enquiry brings out facts which are pertinent to the present illness and which should, therefore, be incorporated in that part of the history.

The headings listed below do not pretend to exhaust all the questions that may be asked. Any untoward symptom should be fully investigated by further appropriate questioning.

(1) *General:* Sense of well-being; strength.
Fatigue.
Capacity to work and play.
Susceptibility to infections.
Feverishness; night sweats; chills.
Tolerance to heat and cold.
Nervousness; palpitation; faintness; dizziness.
Sleep.
Weight: best; usual; present. Note gain or loss and the time taken to produce the change. Actual weights at specific times should be given if possible.

(2) *Head and Neck:* Headache; dizziness; faintness.
Eyes: acuity of vision; glasses; double vision; oedema of lids.
Ears: acuity of hearing; earache; discharging ears; ringing or other noises in ears; vertigo.
Nose: nasal obstruction; sense of smell; head colds; nasal or postnasal discharge; pain over sinuses; epistaxis.
Mouth: condition of teeth and gums; soreness of tongue; bad taste; difficulty in eating or in protruding tongue.
Neck: glandular and thyroid swellings in the neck; pain, stiffness, difficulty or limitation of movement.

(3) *Chest:* (a) *Lungs:*

Cough: duration; mode of onset; severity; production; constancy; paroxysms; dyspnoea; morning cough; clearing throat.

Sputum: amount; constant; periods of freedom; influence of posture; character—colour; consistency (stringy, mucoid, chunky); odour; bloodstreaked.

Haemoptysis: describe fully. Distinguish from haematemesis and other sources of bleeding—as, from pharynx.

Sensations in chest: sensation of weight, tightness, dyspnoea.

History of previous chest illnesses: chest colds (frequency and duration); pleurisy; bronchitis; asthma; pneumonia.

History of exposure to persons with tuberculosis.

(b) *Heart:*

Exercise tolerance; does ordinary exercise cause any distress such as: dyspnoea, praecordial pain, praecordial oppression, or undue fatigue? If there is any limitation, state concretely the amount of effort that will produce these symptoms. Compare recent with previous exercise tolerance.

Dyspnoea: on exercise; at rest; nocturnal; paroxysmal; asthmatic; sighing.

Tachycardia (palpitation): on exercise; at rest; duration; mode of onset; paroxysms.

Praecordial or substernal pain or other distress: on exercise; at rest; exact location; severity; duration; radiation. Is it related to breathing? turning over in bed? stooping? Is it accompanied by evidence of shock, pallor, sweating, faintness, weakness, cyanosis, nausea, or vomiting?

Swelling of ankles and legs: does it clear up with rest? is it increasing? duration.

Previous history indicative of rheumatic disease: flitting arthritis; frequent sore throat; growing pains; chorea.

(4) *Gastrointestinal System:* Give average daily diet—food taken for breakfast, dinner, supper.

Appetite: thirst; amount of fluid intake.

Dysphagia: substernal pain, or "sticking" on swallowing.

"Indigestion" or "Dyspepsia": describe accurately.

Pain or other distress in the epigastrium or elsewhere in the abdomen: location; mode of onset; severity; character; duration; radiation; periodicity; relationship to intake of food or to defaecation; manner of obtaining relief; effect of breathing and other movement. Associated symptoms, such as: shock, fever, nausea, vomiting, chills, diarrhoea, constipation.

Nausea: relationship to food or to vertigo.

Regurgitation: distinguish from "water brash", "heartburn".

Vomiting: presence or absence of nausea or vertigo; relationship to intake of food; character of vomitus—sour, foul, blood-streaked; frequency; amount; recognizable particles of food (length of stay in stomach); relief of pain or fulness following vomiting.

Haematemesis: amount; frequency; colour and character of blood; symptoms of shock—pallor, sweating, weakness, faintness or shortness of breath; preceding symptoms with duration, e.g. pain.

Feeling of fulness: relationship to time and amount of food; belching of gas; aerophagia; relationship to nervousness or worry.

Any type of food intolerance.

Jaundice: history and mode of onset; duration; association with pain; gastrointestinal disturbance; dark urine; light or clay-coloured stools.

General or localized swelling in abdomen.

Bowel movements: give number of stools per day; normal; if painful, give relationship of pain to phase of act; constipation—duration, degree, amount and character of laxative taken; diarrhoea—duration, severity, accompanied by pain or not, tenesmus; alternate constipation and diarrhoea.

Stools: quantity; character—colour, consistency; presence of blood—colour of blood, on surface of movement or intimately mixed with stool; (distinguish black, tarry, sticky stools of melaena from those associated with medication); presence of pus, mucus, parasites.

Haemorrhoids; fistula; fissure.

Hernia.

(5) *Genito-urinary System:*

(a) *Urinary system:*

Frequency—day, night; amount passed each time; any recent change; duration of abnormality.

Pain, burning or scalding on micturition.

Hesitancy; urgency; precipitancy; dribbling; incontinence; retention; force of stream.

Character of urine: colour; smell; blood; pus.

History of renal colic: passing of "gravel", "sand", or stone.

History of haematuria: relationship to pain; pyelitis; nephritis.

(b) *Genital system:*

In males: History of venereal disease with treatment, if any.

Pus from urethra; symptoms of stricture.

Epididymitis.

History of penile sore, rash, sore throat, or other evidence of syphilis.

Potency.

In females: Menstrual history—age of onset; time intervals; regularity; duration; amount of blood lost; pain; degree of disability; menopause.

Intermenstrual bleeding; "spotting."

Intermenstrual discharge—colour; amount; odour; consistency.

Any history of venereal infection.

Pregnancies—number; number of miscarriages or abortions; duration of pregnancy at which they occurred; sequence; number of living children.

(6) *Locomotor System:* Muscles: wasting; strength; pain.

Joints: pain—location; duration; radiation; relationship to movement (standing, sitting or lying down); periodicity; relationship to weather; morning stiffness; tenderness; swelling; deformity; limitation of movement; degree of disability.

Bones: deformity; spontaneous fractures; bone pain—presence or absence of fever; bone tenderness.

(7) *Skin and Appendages:* Skin: colour; eruptions; rashes; petechiae; telangiectases; pigmentation; jaundice; itchiness; thickening.
Hair: presence in normal areas; overgrowth in any region; falling out; coarseness; dryness.
Nails: brittleness; ridging; pitting; spoon-shaped; curvature; clubbing of fingers.

(8) *Nervous System:* State of mind: contented; worried; irritable; depressed; agitated; crying spells.
Memory: recent and remote.
Ability to concentrate.
Disturbances of sleep.
Convulsions, attacks, spells; frequency; duration; aura; generalized or local; loss of consciousness; sphincter control; injury.
Flexor spasms.
Weakness or paralysis of any muscle or group of muscles.
Disturbances of speech.
Disturbances of gait: ability to walk in the dark or upstairs; stumbling; ability to use hands for fine movements.
Disturbances of micturition: sphincter control.
Disturbances of sensation: sight; hearing; smell; any anaesthesia to touch, pain, heat or cold; any hyperaesthesia; any paraesthesia —numbness or tingling, burning or pricking sensation, formication.
Neuralgic pains; lightning pains.

Past Illnesses:

A brief record as to all the illnesses from which the patient has suffered from childhood on. A note about their duration will frequently indicate their severity. Enquire into their possible complications or sequelae. State whether or not the patient has been generally healthy or never well. Specific enquiry should be made as to the occurrence of measles, whooping cough, scarlet fever, diphtheria, tonsillitis, rheumatic fever, chorea, venereal disease, pneumonia, chest colds, pleurisy, tuberculosis, typhoid, periods of being "run down," etc. History of any operations should be recorded. Much of this information will be obtained from the functional enquiry but should be recorded in this section.

Personal History:

This should indicate the environmental influences to which the patient has been subjected. If these bear any relationship to the chief complaint, they should be described in the history of the present illness. Indicate where the patient was born and in what countries he has lived, the amount of education he has had—the age and stage at which it stopped. Character and hours of work, exposure to irritating or noxious chemicals, gases or dust should be stated. The conditions at home, the quantity of food, the amount of recreation and rest should be described. Enquire specifically

into the use of tobacco, alcohol, medicines, drugs, giving the quantity consumed and the manner in which they are used.

Family History:

This should give the hereditary background of the patient. When this has any bearing on the present illness, it should be included in that section. A specific statement regarding the immediate family should be obtained, including father, mother, brothers, sisters and, when indicated, more distant relatives. Their ages and health should be noted, if living; if dead, the age at and the cause of death recorded. Enquiry should be made regarding the occurrence of tuberculosis, malignant disease (part affected), diabetes, renal disease, cardiovascular and nervous diseases in any of the family connection. The health of the marital partner, if married, should be ascertained, as well as the number of children and their health.

C. Physical Examination

General Condition:

It is frequently very helpful to begin the statement regarding the physical state of a patient with a sentence stating his nutrition, development, apparent age, expression, colour, posture, amount of distress, and any other points about his appearance which stand out as one first observes him. For example: "The patient is a moderately well nourished young adult male of about twenty-five years of age, with anxious expression, flushed cheeks and cyanotic lips, lying propped up in bed, apparently very short of breath. He is breathing rapidly, shallowly, and in a rather jerky fashion and is evidently suffering from pain in his chest with each breath. There is a herpetiform eruption about his upper lip and the alae nasi dilate with each inspiration. He would appear to be acutely and severely ill."

Temperature:	Pulse:	Respiratory rate:
Height:	Weight:	

Head:

Inspection and palpation are carried out of the scalp, cranium, and different parts of the face, noting any abnormal appearance, irregularity, swelling, deformity, scars, abnormal contour, etc. A more detailed examination is then made of:

(1) *Head:* Hair and scalp.
Eyes: Conjuctiva—pale, injected, smoothness.
Lids—colour, swelling, movements, ptosis, retraction, lid-lag.

Globes—prominence, exophthalmos, strabismus, tension, tenderness.
Cornea—ulceration, scars, opacities, depth of anterior chamber.
Sclerae—normal colour, jaundiced, blue-white, haemorrhage.
Pupils—size, shape, equality, synechia, iritis.
Lens—opacities.
Vision—acuity.
Ophthalmoscopic examination—evidence of opacities in lens and vitreous.
Disc: colour; presence of physiological cup; distinctness of margin; evidence of oedema.
Retina: colour; normal markings; oedema; exudates; haemorrhages; macular area; macular star.
Vessels: relative size of arteries and veins; patency of vessels; tortuosity of arteries; light streaks along arteries; "copper wire", "silver wire" appearance; perivasculitis; right angle crossings; denting of veins by arteries.
N.B.: For fields of vision, ocular movements, reaction of pupils to light, etc., see Neurological Examination.

Nose: deformities; patency of passages; discharge; trans-illumination of paranasal sinuses.

Ears: acuity of hearing; auditory canal discharge; ear drums; mastoid tenderness; tophi.

Mouth: colour of lips—normal, pale, waxy, cyanosed; teeth—caries, gingivitis, pyorrhoea, dentures.

Breath: odour—foetid, foul, acetone, uraemic, alcohol, volatile poisons.

Tongue: size; colour; shape; moist or dry; clean or coated; colour of coat; smooth or rough; atrophy of papillae; any abnormality—ulceration, etc.; protrusion—in midline? tremor?

Fauces: normal; injected; scarring of soft palate.

Tonsils: presence; size; cryptic; pus.

(2) *Neck:* Cervical lymphatic glands—if these are enlarged, describe location, number, size in centimeters, mobility, relationship to one another and to surrounding structures, tenderness and consistency.

Thyroid gland: if enlarged, describe size, shape (diffuse or nodular), consistency, pulsation, thrill, tenderness, presence or absence of a bruit, mobility (movement on swallowing).

Torticollis: movement of cervical spine.

Visible pulsations: arterial or venous.

Dilated veins.

Any other abnormality.

(3) *Breasts:* (in female patients) compare two sides with patient sitting erect in good light.

Inspection: size; shape; position; regularity of contour; areas of redness or swelling; dilated veins; character of overlying skin.

Nipples: relative position; deformity; retraction; discharge; areola.

Palpation: Mobility of breast—with pectoralis relaxed and then contracted; express discharge from nipple; tenderness; induration; lump—size, shape, position, single or multiple, consistency.

tenderness, motility, attachment to skin or nipple; axillary glands.

(4) *Respiratory System:*

(a) Inspection:

(1) Superficial tissues: cyanosis; oedema; enlarged thoracic veins; local swellings; bulging or retraction of interspaces.

(2) Bony thorax: type of chest—natural; flat; barrel-shaped. compare size and shape of the two sides.
Abnormalities of shape: pigeon chest; Harrison's sulcus; kyphosis; scoliosis.

(3) Respiratory movements: rate; type of breathing—thoracic, abdominal, combination; movement of chest as whole; accessory muscles. Compare extent of movement of the two sides. Litten's sign. Lower costal margin movements.

(b) Palpation:

(1) Superficial tissues: skin and muscle tenderness; muscle wasting or spasm.

(2) Thorax: confirm inspection re size and shape; rachitic beading. Confirm equality or inequality of movements on two sides. Vocal fremitus: compare both sides; normal; decreased or absent; increased. Palpable thrills; rhonchi; or pleural friction rubs. Position of mediastinum; trachea; apex beat.

(c) Percussion:

(1) Resonance: audibility—slightly, moderately or markedly impaired; quality—normal, hyperresonant, tympanic, boxy, dull, flat. Compare corresponding places on two sides of chest.

(2) Dome of diaphragm; lower borders of lungs; position; excursion with respiration—equal?; superficial cardiac dullness.

(3) Kroenig's isthmus.

(4) Shifting dullness.

(d) Auscultation:

(1) Breath sounds: intensity—normal, decreased, increased; quality—normal for location, prolonged expiratory, murmur, harsh, bronchovesicular, bronchial, amphoric.

(2) Adventitious sounds: always listened for with quiet and forced breathing *and after cough;* rales—fine, medium, coarse, crepitant, crackling, bubbling; rhonchi—fine, medium, coarse, high or low pitched; pleural friction rub.

(3) Voice sounds: whispered and spoken voice; intensity—normal, decreased, absent, increased; quality—normal, altered; bronchophony, aegophony, pectorilquy.

(4) Succussion, splash and coin sounds.

N.B.: Areas showing abnormal signs should be outlined if possible.

(5) *Cardiovascular System:*

(a) Radial pulse: rate; rhythm; force; volume; tension. Types of pulse: regular; extrasystoles: pulsus bigeminus; completely irregular; Corrigan pulse; plateau pulse; pulsus alterans. Compare

radial pulse on two sides. Character of vessel wall: palpable or not when empty; beaded.

(b) Brachial arteries: tortuous; beaded; thickened.

(c) Other palpable arteries: temporals; femorals; popliteals; dorsalis pedis; posterior tibials.

(d) Blood pressure.

(e) Heart: (1) Inspection: shape of praecordium; visible apex pulsation; pulsation of veins in neck; pulsation epigastrium; other pulsations.

(2) Palpation: position of apex beat—the lowermost and outermost point of impulse; character of cardiac impulse—normal, impalpable, heaving, slapping, rhythm and regularity of impulse; thrills—position and time in cardiac cycle; over cervical vessels; other palpable impulses.

(3) Percussion: heart borders—define the area of cardiac dullness on both sides of midline from 2nd to 6th interspaces and draw diagram indicating distances from the midline in centimeters; superficial cardiac dullness; superior mediastinum.

(4) Auscultation: listen over the cardiac area and over the vessels of the neck. Presence and quality of the two heart sounds at the mitral, pulmonary, aortic and tricuspid areas. Note rate and rhythm. Note any "pulse deficit."

Adventitious sounds: murmurs—listen for at all valvular areas. Note relationship to the heart sounds, quality, duration, conduction, relationship to respiration, relationship to position of patient—lying flat; lying on left side; sitting up. Effect of exercise. Pericardial friction rub.

(6) *Abdomen:*

(a) Inspection: size and shape—distended, retracted; symmetry; movement on respiration; oedema of abdominal wall; enlarged superficial veins; umbilicus—position and shape; visible masses; mobility with respiration; pulsation; peristaltic movements.

(b) Palpation: tenderness—position and degree; rigidity—position and degree; hyperaesthesia—position and degree.

Liver: palpable or not; if palpable, measure distance down from costal margin; uniformly or irregularly enlarged?; describe size, shape, surface, edge, consistency, tenderness, mobility.

Gall-bladder: palpable? tender? size? position?

Spleen: palpable? Describe as under 'liver'.

Kidneys: palpable? Describe as under 'liver.'

Palpable tumour: describe as under 'liver.'

Costovertebral tenderness.

Fluid thrill.

(c) Percussion: Shifting dullness; other dullness; percussion of liver, particularly upper border and size of left lobe. Traube's space.

(d) Auscultation: Bruits; friction rubs; peristaltic movements.

(7) *Glandular System:*

Examine all glandular areas: cervical; axillary; epitrochlear; inguinal. If any of these areas show enlarged glands, they should be described accurately: location; number; size in centimeters; relationship to each other and surrounding structures; mobility; tenderness; consistency.

(8) *Genitals:*

(a) In the male: scars; discharge; phimosis; malformations of penis; deformity; atrophy; swelling of testicles; varicocele; hydrocele; epididymitis.

(b) In the female: external genitalia, pelvic examination } when necessary.

(9) *Extremities and Back:*

Examine the back in every patient.

Back: curvature of spine; deformities, freedom of movement; points of tenderness; oedema over sacrum.

Upper extremities: nails—ridging, pitting, spoon-shaped; clubbing of fingers; capillary pulsation; redness of palms; Osler's nodes; petechiae; deformity; oedema.

Lower extremities: oedema; varicose veins; colour changes; deformity; ulceration; gangrene.

Joints: swelling; redness; heat; tenderness; periarticular thickening; freedom of movement; pain on movement; crepitation on movement; deformity (compare with normal side).

(10) *Skin:*

Colour; moist or dry; texture—firm, thickened, atrophied, velvety, inelastic, smooth, rough; jaundiced; purpura; petechiae; telangiectasis; skin lesions—describe accurately; subcutaneous tissues.

(11) *Rectal Examination:*

Presence of haemorrhoids; fissure; fistula in ano; tone of sphincter; tenderness; abnormal prominences or resistance—in wall, outside wall; tender points; stricture; prostate gland; seminal vesicles; presence of blood on examining finger.

(12) *Neurological Examination:*

(a) General: statement as to patient's mental state—bright; cooperative; drowsy; comatose; antagonistic; euphoric; depressed; perception; attention; orientation; memory—recent, remote; hallucinations; delusions.

(b) Speech disturbances: dysarthria—aphasia. Distinguish.

(c) Cranial nerves:

i. Test sense of smell.

ii. Acuity of vision.

iii, iv, vi. Pupils: size; outline; regularity; equality; reaction to light and accommodation; equality of reaction; consensual reaction. Ocular movements: test in all directions; strabismus.

Diplopia: test in all positions. Describe. Drooping of lids. Nystagmus.

v. Sensory: test sensation over face and tongue (except taste); conjunctival reflex.
Motor: palpate masseter and temporal muscles on clenching jaw; deviation of jaw on opening—towards the paralysed side.

vii. Ask patient to close eyes tightly; to open them against resistance; to whistle; to show his teeth; to smile. Distinguish between supra- and infranuclear lesions. Taste in anterior two-thirds of tongue.

viii. Cochlear division: acuity of hearing; Rinné's test—air conduction versus bone conduction.
Vestibular division: vertigo.

ix, x. Any symptoms of soft palate paralysis, e.g.: regurgitation through nose. Pharyngeal reflex. Elevation of palate; uvula in midline? Larynx: hoarseness; movement of vocal cords.

xi. Test power in Trapezii: shrug shoulders. Test power in the sternocleidomastoid muscles.

xii. Hemiatrophy of tongue. Deviation of tongue from straight line when protruded. Ability to move tongue from side to side.

(d) Motor System: *Power:* test at all joints; ability to sit up; excursion of umbilicus on attempting to sit up.
Tone: test each group of muscles—increased; diminished; absent; lead pipe rigidity; neck rigidity; pain on flexing neck; Kernig's sign.
Muscle wasting: Compare two sides; measure with tape at similar positions.
Co-ordination tests: ataxia.
Adventitious movements: tremor; athetosis; fibrillary twitching; choreaform movements.
Cerebellar tests: repeated movements; diadokokinesia; past pointing; cerebellar ataxia—uninfluenced by closing eyes; ability to side-step.

(e) Sensory System: Subjective pain—direction of radiation, character, frequency; numbness; tingling; other forms of paraesthesia; sensibility to cotton wool, pin prick, pressure, heat and cold (outline abnormal areas); sense of position at all joints vibration sense; stereognostic sense.

(f) Reflexes: (1) Superficial: corneal; palatal; epigastric; abdominal; cremasteric; plantar.
(2) Deep: jaw; wrist; elbow; knee; ankle.
(3) Organic: bladder-sphincter: urgency, frequency, incontinence, dribbling, retention; rectal sphincter: constipation, incontinence, tone of sphincter.

(g) Gait: With eyes open; with eyes closed; ability to turn quickly, to run, to step sideways.

(h) Stance: With eyes open; with eyes closed; Romberg's sign; ability to stand on one or other foot, on toes, on heels.

(i) Special Examinations:

(1) Spinal puncture: pressure of fluid (measure in millimeters of water); effect of jugular compression; colour of fluid —clear and watery, yellow, bloody, cloudy; cell count; differential; examination for bacteria on centrifuged deposit; culture; formation of pellicle on standing; protein tests; Wassermann reaction; colloidal gold reactions.
(2) Double puncture.
(3) Air injections: encephalogram; ventriculogram.
(4) Lipiodal injection.
(5) Electrical reaction of wasted muscles.

(13) *Examination of the Urine:*

24 hour volume output.
Specific gravity.
Colour; odour.
Reaction.
Albumin.
Sugar.
Acetone bodies: sodium nitroprusside reaction: ferric chloride reaction.
Bile.
Urobilin.
Chemical test for blood.
Microscopic examination of fresh specimen:
Red blood cells; white blood cells.
Casts: hyaline; granular; cellular.
Epithelial cells.
Inorganic crystals and deposit.

(14) *Examination of the Blood:*

Estimation of haemoglobin content.
Red blood cell count: colour index; white blood cell count.
Examination of stained smear:
Red cells: average size; degree of anisocytosis; poikilocytosis; polychromasia; reticulated red cells; nucleated red cells.
White blood cells: differential count.
Platelets: number; size; character.
Examination of reticulocyte smear, where indicated.

(15) *Examination of the Stool:*

Colour; consistency; presence or absence of blood; pus; mucus; parasites or parasitic ova.
Chemical test for blood.

(16) *Examination of the Sputum* (where indicated)

For the presence of B. Tuberculosis particularly.

D. Summary

This should give a brief resumé of the important findings in the history and the examination. From a proper consideration of these, the student ought to be able to eliminate all but a few con-

ditions which might be responsible for the patient's ill health, and these possible diagnoses are given under the heading of:

E. Differential Diagnosis

The evidence at hand will direct attention to one particular condition which is given as:

F. Provisional Diagnosis

This is a working diagnosis and upon it the immediate treatment depends. Subsequent investigation may require a revision of both diagnosis and treatment. Under this heading should come as well, besides the main diagnosis, any secondary conditions which may have been found during the course of the investigation which may or may not require treatment.

G. Prognosis

Immediate and remote. The student should attempt to predict:

1. Whether the patient will have partial or complete recovery, or die from his illness.
2. The probable duration of illness.
3. The probable complications and the after-effects which may result should the patient recover.

H. Outline of Treatment

The treatment for the individual patient should be given in detail. Specific orders should be written for diet, fluid intake, nursing care, medication with prescriptions (if necessary), and any special therapeutic measures. The amount of rest necessary for the patient should be stated definitely.

I. Further Investigations

A note to indicate what further or special forms of investigation should be undertaken in order to confirm or disprove the provisional diagnosis. This may include various chemical or other blood examinations, blood culture, serum agglutination tests, gastric test meal, renal function tests, sugar tolerance tests, special liver function tests, electrocardiograms, X-rays of chest, gastro-intestinal tract or other region, etc. etc.

J. Progress Notes

These should be made frequently in patients who are acutely or severely ill, or whose condition is changing rapidly; less frequently in those suffering from chronic disease. They should describe any

change in the signs or symptoms as first observed, and any change in the general well-being of the patient. They should describe accurately the response to treatment. Results of any special investigation should be given and any modifications made in the diagnosis or treatment.

K. Final Note

This should be a concise summary of the case history from the onset of the patient's illness until such time as he has left your care either cured, improved, unimproved, or dead. This should indicate the important details of history, examination, special investigations, treatment and response to therapy, progress and the—

L. Final Clinical Diagnosis